

CLAIMS

What is claimed is:

1.
- A flexible tip for a hearing aid comprising:
a mushroom shaped tip;
an inner portion defining a bore having a proximal end and a distal end,
the proximal end of the bore adapted to be disposed adjacent an eardrum; and
a receiver mounted within the bore.
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2.
- The flexible tip of claim 1 further comprising a sealing layer formed between the
receiver and the inner portion, the sealing layer minimizing the presence of an
acoustical feedback path within the flexible tip.
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3.
- The flexible tip of claim 1 further comprising a receiver housing integrally
formed with the bore of the flexible tip, the receiver mounted within the receiver
housing.
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4.
- The flexible tip of claim 3 further comprising a sealing layer between the
receiver and the receiver housing, the sealing layer minimizing the presence of
an acoustical feedback path within the flexible tip.
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5.
- The flexible tip of claim 1 further comprising a receiver housing and spring
assembly integrally formed with the bore of the flexible tip, the receiver
mounted within the receiver housing.
6.
- The flexible tip of claim 5 wherein the spring is compliant along a transverse
axis and a longitudinal axis to provide flexibility in the tip.

7. The flexible tip of claim 5 wherein the spring comprises a radial stiffness to provide support from radial loads placed on the flexible tip.
8. The flexible tip of claim 5 wherein the spring comprises a hearing aid securing portion for securing the flexible tip to a hearing aid.
- 5 9. The flexible tip of claim 5 further comprising a sealing layer between the receiver and the receiver housing, the sealing layer minimizing the presence of an acoustical feedback path.
- 10 10. The flexible tip of claim 5 wherein the inner portion and the mushroom shaped tip are formed of a compliant material.
- 10 11. The flexible tip of claim 1 wherein the inner portion is formed of a first material and the mushroom shaped tip is formed of a second material, the second material having a greater compliance than the first material.
12. A hearing aid comprising:
a hearing aid base unit having a housing, a microphone, a battery and
15 electronics; and
a flexible tip connected to the base unit, the flexible tip having a mushroom shaped tip, an inner portion defining a bore having a proximal end and a distal end, the proximal end adapted to be disposed adjacent an eardrum, and a receiver mounted within the bore.
- 20 13. The hearing aid of claim 12 further comprising a sealing layer formed between the receiver and the inner portion, the sealing layer minimizing the presence of an acoustical feedback path within the flexible tip.

14. The hearing aid of claim 12 further comprising a receiver housing integrally formed with the bore of the flexible tip, the receiver mounted within the receiver housing.
- 5 15. The hearing aid of claim 14 further comprising a sealing layer between the receiver and the receiver housing, the sealing layer minimizing the presence of an acoustical feedback path within the flexible tip.
16. The hearing aid of claim 12 further comprising a receiver housing and spring assembly integrally formed with the bore of the flexible tip, the receiver mounted within the receiver housing.
- 10 17. The hearing aid of claim 16 wherein the spring is compliant along a transverse axis and a longitudinal axis to provide flexibility in the tip.
18. The hearing aid of claim 16 wherein the spring comprises a radial stiffness to provide support from radial loads placed on the flexible tip.
- 15 19. The hearing aid of claim 16 wherein the spring comprises a hearing aid securing portion for securing the flexible tip to a hearing aid body.
20. The hearing aid of claim 16 further comprising a sealing layer between the receiver and the receiver housing, the sealing layer minimizing the presence of an acoustical feedback path.
- 20 21. The hearing aid of claim 16 wherein the inner portion and the mushroom shaped tip is formed of a compliant material.

22. The hearing aid of claim 12 wherein the inner portion is formed of a first material and the mushroom shaped tip is formed of a second material, the second material having a greater compliance than the first material.
- 5 23. A method for placing a receiver adjacent to an eardrum comprising:
providing a hearing aid having a flexible tip formed of a mushroom
shaped tip and an inner portion defining a bore, the flexible tip having a receiver
mounted within the bore;
placing the hearing aid within an ear of a user; and
10 placing the flexible tip adjacent to the eardrum within the ear of the user.
24. The method of claim 23 comprising decreasing the amount of power required by the receiver.
25. A flexible tip for a hearing aid comprising:
a tip portion for sealing an ear canal;
15 an inner portion defining a bore having a proximal end and a distal end,
the inner portion formed of a flexible material adapted to conform to the
geometry of an ear canal and the proximal end of the bore adapted to be
disposed adjacent an eardrum; and
a receiver mounted within the bore.
- 20 26. The flexible tip of claim 25 further comprising a sealing layer formed between the receiver and the inner portion, the sealing layer minimizing the presence of an acoustical feedback path within the flexible tip.
27. The flexible tip of claim 25 further comprising a receiver housing integrally formed with the bore of the flexible tip, the receiver mounted within the receiver
25 housing.

28. The flexible tip of claim 27 further comprising a sealing layer between the receiver and the receiver housing, the sealing layer minimizing the presence of an acoustical feedback path within the flexible tip.
29. The flexible tip of claim 25 further comprising a receiver housing and spring assembly integrally formed with the bore of the flexible tip, the receiver mounted within the receiver housing.
30. The flexible tip of claim 29 wherein the spring is compliant along a transverse axis and a longitudinal axis to provide flexibility in the tip.
31. The flexible tip of claim 29 wherein the spring comprises a radial stiffness to provide support from radial loads placed on the flexible tip.
32. The flexible tip of claim 29 wherein the spring comprises a hearing aid securing portion for securing the flexible tip to a hearing aid.
33. The flexible tip of claim 29 further comprising a sealing layer between the receiver and the receiver housing, the sealing layer minimizing the presence of an acoustical feedback path.
34. The flexible tip of claim 25 wherein the inner portion is formed of a first material and the tip portion is formed of a second material, the second material having a greater compliance than the first material.
35. A hearing aid comprising:
a hearing aid base unit having a housing, a microphone, a battery and electronics; and

5 a flexible tip connected to the base unit, the flexible tip having a tip portion for sealing an ear canal, an inner portion defining a bore having a proximal end and a distal end, the inner portion formed of a flexible material adapted to conform to the geometry of an ear canal and the proximal end of the bore adapted to be disposed adjacent an eardrum, and a receiver mounted within the bore.

36. The hearing aid of claim 35 further comprising a sealing layer formed between the receiver and the inner portion, the sealing layer minimizing the presence of an acoustical feedback path within the flexible tip.

10 37. The hearing aid of claim 35 further comprising a receiver housing integrally formed with the bore of the flexible tip, the receiver mounted within the receiver housing.

15 38. The hearing aid of claim 37 further comprising a sealing layer between the receiver and the receiver housing, the sealing layer minimizing the presence of an acoustical feedback path within the flexible tip.

39. The hearing aid of claim 35 further comprising a receiver housing and spring assembly integrally formed with the bore of the flexible tip, the receiver mounted within the receiver housing.

20 40. The hearing aid of claim 39 wherein the spring is compliant along a transverse axis and a longitudinal axis to provide flexibility in the tip.

41. The hearing aid of claim 39 wherein the spring comprises a radial stiffness to provide support from radial loads placed on the flexible tip.

42. The hearing aid of claim 39 wherein the spring comprises a hearing aid securing portion for securing the flexible tip to a hearing aid body.
43. The hearing aid of claim 39 further comprising a sealing layer between the receiver and the receiver housing, the sealing layer minimizing the presence of an acoustical feedback path.
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44. The hearing aid of claim 35 wherein the inner portion is formed of a first material and the tip portion is formed of a second material, the second material having a greater compliance than the first material.